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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/887,319	07/02/97	MARTIN	H 1096.09901

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WM21/0813

EXAMINER

LEE, M

ART UNIT

PAPER NUMBER

2614

32

DATE MAILED: 08/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/887,319

Applicant(s)

MARTIN ET AL.

Examiner

M Lee

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 38-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25, 27-31 and 38-51 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 27.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, 10, 11-13, 15-17, 20-25, 27-31, 38, 44-46, 48, and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurahashi (JP402127877A).

Regarding claims 1, 11, 21-24, 28, 29, 38, 46, 48, 49, Kurahashi shows a digital data memory (13), a control input (12), and a converter (11).

Regarding claims 2, 12, 25, 27, the distortion correction carried out by the control 11 and elements 14 and 15 is essentially the same as the orthogonal transformation algorithms as claimed.

Regarding claims 3, 13, the image is converted as the rate of NTSC standard.

Regarding claims 5, 15, the input control 12 inputs a plurality of signals and the converter corrects many portions of distorted images.

Regarding claims 6, 17, 30, the image is received from a fisheye lens.

Regarding claims 7, 16, the frame rate in NTSC is 30 images per second.

Regarding claims 10, 20, the lens in Kurahashi is a wide angle lens.

Regarding claim 31, Kurahashi shows a second memory 17.

Regarding claim 44, the image in Kurahashi is in circular field of view.

Regarding claim 45, the image in Kurahashi is in hemispherical field of view.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 8, 9, 14, 18, 19, 39-43, 47, 50, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurahashi (JP402127877A).

Regarding claims 4, 14, 40, 41, 43, Kurahashi does not specify the control input for receiving signals representing zenith and azimuth angles of the selected image portion. In any event, since the captured image in Kurahashi are represented in polar coordinate, it would have been obvious to one of ordinary skill in the art to select the image portion by using polar coordinates such as zenith and azimuth angles.

Regarding claims 8, 18, since the image portions in Kurahashi can be selected arbitrarily, the selection of one image portion to the next is essentially the equivalent of the rotation angle.

Regarding claims 9, 19, 39, Kurahashi does not specify the magnification level as claimed. In any event, it is well known that an image must be enlarged in order to get a close look of the image. Hence, it would have been obvious to

one of ordinary skill in the art at the time of the invention was made to magnify the image in Kurahashi if a close look of the image is needed.

Regarding claims 42, 47, Kurahashi does not specify the joystick as claimed. Since the key input part 12 in Kurahashi can be any conventional input device, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ a joystick as the input device because joystick is one of the well known input device for computing devices.

Regarding claims 50-51, see similar reasons recited above.

Allowable Subject Matter

5. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 6/4/2001 have been fully considered but they are not persuasive.

Applicant argues that Kurahashi discloses selecting a portion only from among nine predefined areas, and does not disclose the selection ranging across the field of view (page 7, lines 1-2). The examiner disagrees. According to Figure 3 of Kurahashi, image portions are being selected across the field of view by using image designation S4 of Figure 4. The designated portions maybe predefined, but it still reads on the broadly claimed limitation.

Applicant argues that Kurahashi says nothing about a control input for receiving a signal representing a selection of a viewing angle, wherein the viewing angle is chosen from angle varying across the field of view (page 7, lines 15-17). The examiner disagrees. It is true that Kurahashi does not explicitly disclose the viewing angle as claimed. However, by inspecting Figure 3 of Kurahashi, one would recognize that the image portions are dictated by polar coordinates. Since polar coordinates represent by angles and radius, Figure 3 of Kurahashi clearly reads on the limitations as claimed.

Applicant argues Kurahashi discloses the fisheye distortion rate memory part and the fisheye image correction circuit, but does not disclose or suggest anything about a data structure representing an orthogonal set of transformation algorithms (page 8, lines 13-16). The examiner disagrees. Fisheye image correction is carried out by elements 11, 12, 14, and 15 of Kurahashi which inherently includes orthogonal algorithms. It is well known image transformations are usually carried out by orthogonal transformations. Since Kurahashi transforms a fisheye distorted image into a planar image, orthogonal transformation algorithms must be used.

Applicant argues that Kurahashi does not disclose converting at least one selected portion to a perspective corrected image in real-time in response to and based on information included in the input (page 9, lines 4-6). The examiner disagrees. Since the control unit 11 performs fisheye correction based on the input signal of key input 12 in real time, Kurahashi clearly reads on the limitation as claimed.

Applicant argues that Kurahashi does not disclose or suggest how to perform magnification and how to perform correction of a distorted image. As discussed above, the fisheye correction in Kurahashi is carried out by orthogonal transformation algorithms. And as stated in the rejection, image magnification is well known in the art and would have been obvious to one of ordinary skill in the art to modify Kurahashi to perform such function since a viewer in Kurahashi might be needed to view the image in a close up manner.

In view of above reasons, the Office rejection is maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M Lee whose telephone number is 703-305-4743. The examiner can normally be reached on 9 hours/day, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reinhard J Eisenzopf can be reached on 703-305-4711. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5359 for regular communications and 703-308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

A handwritten signature in black ink, appearing to be 'M. Lee', with a large loop at the start and a horizontal line extending to the right.

M Lee
Primary Examiner
Art Unit 2614

August 9, 2001